



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,560	12/08/2003	Gary W. Groves	1316N001633	4251
27572	7590	03/18/2008		
HARNESS, DICKEY & PIERCE, P.L.C.				
P.O. BOX 828				
BLOOMFIELD HILLS, MI 48303				
EXAMINER				
BURCH, MELODY M				
ART UNIT		PAPER NUMBER		
3683				
MAIL DATE		DELIVERY MODE		
03/18/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/730,560

Applicant(s)

GROVES ET AL.

Examiner

Melody M. Burch

Art Unit

3683

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of "controlling flow from said upper working chamber into said reserve chamber" as recited in line 5 from the bottom of claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Examiner notes that figure 1 shows and paragraph [0026] describes fluid from the upper working chamber 24 flowing through a passage 130, into upper intermediate chamber 52 through rebound outlet 56 of the valve assembly 22. Paragraph [0026] then generally states that "[f]luid flowing through continuously variable servo valve assembly 22 is directed to reserve chamber 38." Examiner notes however, that the figures do not show where fluid from the valve assembly is dumped into the reserve chamber 38 as described and claimed. Examiner recommends amending figure 5 to include a reference character for reserve chamber 38.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-11 and 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6182805 to Kashiwagi et al. in view of US Patent 5586627 to Nezu et al.

Re: claims 1 and 18-21. Kashiwagi et al. show in figure 2 an adjustable shock absorber comprising: a pressure tube 2 defining a working chamber 2a,2b, a piston rod 6 extending through the pressure tube and into the working chamber, a piston 5 slidably disposed within the pressure tube and connected to the piston rod, the piston defining at least one compression fluid passage 11, the piston dividing the working chamber into an upper working chamber 2a and a lower working chamber 2b, a compression valve 12 attached to the piston, the compression valve allowing fluid flow from the lower working chamber to the upper working chamber when a first fluid pressure is exerted on the compression valve, a reserve tube 3 surrounding the pressure tube, the reserve tube defining a reserve chamber 4, a single valve assembly 19 separate from the piston in direct communication with the upper and lower working chambers and the reserve chamber, the single valve assembly defining a first flow path disclosed in col. 7 lines 22-47 which includes a first variable orifice or one of elements 44 for controlling flow from the upper working chamber into the reserve chamber and a second flow path which includes a second variable orifice or the other of elements 44 for controlling flow from the lower working chamber to the reserve chamber as disclosed in col. 7 line 60 – col. 8 line 4, the first flow path being the only flow path from the upper working chamber into the reserve chamber.

Kashigawi et al. lack the limitation of a rebound passage and a rebound valve.

Nezu et al. teach in figure 3 the use of a rebound passage 60.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the piston of Kashigawa et al. to have included a rebound passage and valve, as taught by Nezu et al., in order to provide a means of urging fluid flow from the upper chamber to the lower chamber when pressure in the upper chamber exceeds a predetermined level.

Kashiwagi et al., as modified, lack the limitation of the at least one compression and rebound passages being a plurality.

Nezu et al. teach in figure 3 the use of a plurality of compression passages 61 and plurality of rebound passages 60.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the at least one compression and rebound passages of Kashigawa et al., as modified, to have included a plurality, as taught by Nezu et al., in order to increase fluid flow capabilities depending on application.

Kashiwagi et al., as modified, do not explicitly express that the second fluid pressure is greater than the first fluid pressure. Nezu et al. teach in col. 40 lines 41-44 that the shock absorbers can be arranged such that different (great and small) damping forces can be set at the extension side and the contraction side.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the first and second pressures of Kashiwagi et al., as modified, to have included the second pressure being greater than the first pressure such that greater damping forces exist at the extension side, in view of the teachings of

Nezu et al., in order to provide a means of obtaining damping force properties suitable for the suspension control of a particular application.

Re: claims 2-5, 9, 10, 15 and 16. Kashiwagi et al., as modified, teach in figure 9 of Kashiwagi et al. the use of the single valve assembly including a solenoid valve 47 having means 50 for controlling the first variable orifice.

Nezu et al. teach the use of a solenoid valve to achieve adjustable characteristics in a damping force adjusting mechanism as shown in figure 3 elements 66 and 83.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the air pressure adjusting means of the single valve assembly of Sakai et al., as modified, to have included solenoid adjusting means, as taught by Nezu et al., in order to provide a functionally equivalent means of achieving adjustable damping characteristics.

Re: claims 6-8, 13, and 14. Kashiwagi et al., as modified, teach in figure 9 of Kashiwagi et al. the use of first and second poppet valves 62, 55.

Re: claims 11 and 17. Kashiwagi et al., as modified, teach in figure 2 of Kashiwagi et al. a base valve assembly 10 disposed between the lower working chamber 2b and the reserve chamber 4, the base valve assembly controlling fluid flow from the reserve chamber to the lower working chamber, the base valve assembly prohibiting all fluid flow from the lower working chamber to the reserve chamber via element 14.

Response to Arguments

5. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Response to Amendment

6. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 6427986 to Sakai et al., 5934421 to Nakadate et al., and 5934422 to Steed teach the use of shock absorbers having a reserve chamber, a base valve, and single valve assembly separate from the piston.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3683

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mmb

March 11, 2008

/Melody M. Burch/
Primary Examiner, Art Unit 3683